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8 April 1955

MEMORANDUM FOR: Chief, Technical Services Staff

SUBJECT : Request for Initiation of Contract Negotiations for
the Development and Evaluation of Hot Dipped Plastic
Packaging1. Description of the Project

Development and evaluation of packaging methods and dipping precautions to be used when hot-dip plastic is used to package and protect material and items containing explosives or pyrotechnic mixtures. This task shall also include a determination of any deterioration to the item or reduction of effectiveness due to the high temperature involved during dipping and a burial test.

2. Purpose of the Project

The purpose of this project, MD-39, is to determine the degree of safety with which certain explosives and pyrotechnic devices can be hot dipped and what types of pre-wrapping or pre-packaging is required to reduce or eliminate the hazards involved.

The suitability of using many of the varieties of hot-dip plastic as a protective packaging material has been established by tests run by both the military and the Agency. It is especially suited for burial, where most packaging materials fail to give continued protection against the very severe environment.

Items to be included in this test program are:

R. R. Signal Device

Plastic Explosives, C-3 and C-4

Primacord and Black Powder Time Fuze

Pull-Type Fuze Lighters

Pocket Incendiary Units

Thermite Well Units

Rocket Incendiary Adapters, 2.36" and 3.50"

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Mark I and/or Mark II Pencil Units

A. C. Delay Packages

Fuzee Matches

The proposed work program is divided into six parts as follows:

- Part I: Experimental determination of time and temperature durations of exposure for each of the above items when packaged and dipped in the conventional manner.
- Part II: Use of Part I data to establish whether or not the standard packages provide sufficient protection against thermal damage. Equally important as determining if a unit will ignite or explode and cause damage to personnel or equipment is finding out if any of the devices or material are harmed or their effectiveness reduced by subjecting to the high temperature of the dipping process.
- Part III: Redesign of packaging methods found to be inadequate or unsafe under Part II.
- Part IV: Preparation of several hot-dipped packages for both short and long-term evaluation. In addition to performing standard laboratory tests, a portion of the prepared items will actually be buried in a number of soil and water conditions for a period of six months.
- Part V: Functional testing of the units prepared and stored under Part IV.
- Part VI: Evaluation of data, preparation of final report and preparation of instruction manual for the protection of the packaged devices by hot dipping.

3. Recommended Contractor

25X1

4. Support Requirements

There are no support requirements.

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5. Total Cost

The total cost for this development and evaluation study is estimated at \$12,000, and charges will be made against Allotment No. 5-2502-10. The project is expected to be concluded in nine months.

6. Project Engineer

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7. Security Information

CIA interest in the program is to be classified SECRET, and the contract should be drawn up in such a manner that CIA interest could be denied.

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Chief
Engineering Division, TSS

DD/P/TSS/EL mm

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